

# Notice of Allowability

Application No. 09/970,810  
 Examiner Wilbert L. Starke, Jr.  
 Applicant(s) RAZ, RYAN  
 Art Unit 2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--  
 All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing of 04 OCT 2001.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☒ The drawings filed on 04 October 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 118(a)-(d) or (f).
  - a) ☐ All b) ☐ Some c) ☐ None of the
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(e)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
 THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ Including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-848) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_
  - (b) ☐ Including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_

Identifying indicia such as the application number (see 37 CFR 1.84(e)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-848)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB08),<br>Paper No./Mail Date <u>4.5</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                         | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

# **Notice of References Cited**

Application/Control No.

09/970,810

Applicant(s)/Patent Under

Reexamination

RAZ, RYAN

Examiner

Wilbert L. Starks, Jr.

Art Unit

2121

Page 1 of 1

## **U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-8,665,080 B1	12-2003	Zahniser et al.	356/39
	B	US-6,007,998	12-1999	McNamara et al.	435/6
	C	US-6,690,817 B1	02-2004	Cabib et al.	382/134
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

## **FOREIGN PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

## **NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	Haykin, Simon, "Neural Networks: A Comprehensive Foundation", Macmillan College Publishing Company, Englewood Cliffs, New Jersey, 1994, pp. 138-229.
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**DETAILED ACTION**

***Reasons For Allowance***

1. Claims 1-28 are allowed.
2. The following is an Examiner's statement of reasons for allowance:
3. The cited prior art taken alone or in combination fails to teach the claimed invention of a neural network assisted multi-spectral segmentation system, as claimed by Applicant. Specifically:
4. Independent claim 1 discloses an "analyzing step utilizing previously developed classification information for discriminating nuclear or cytoplasmic material, the previously developed classification information being developed from at least one cell of known regions of nuclear or cytoplasmic material."
5. The closest prior art of Raz (U.S. Patent Number 6,463,425 B2; dated 08 October 2002; class 706; subclass 20) teaches the claimed invention of a neural network assisted multi-spectral segmentation system, as claimed by Applicant, but fails to teach or suggest an "analyzing step utilizing previously developed classification information for discriminating nuclear or cytoplasmic material, the previously developed classification information being developed from at least one cell of known regions of

nuclear or cytoplasmic material." To the extent that this feature is not found in the prior art cited by Examiner, the present case is held allowable over the art of record.

6. Independent claim 17 discloses "at least one first digitized image in a wavelength of between 525 to 575 nanometers, at least one second digitized image in a wavelength of between 565 to 582 nanometers, and at least one third digitized image in a wavelength of between 625 to 635 nanometers."

7. The closest prior art of Raz (U.S. Patent Number 6,463,425 B2; dated 08 October 2002; class 706; subclass 20) teaches the claimed invention of a neural network assisted multi-spectral segmentation system, as claimed by Applicant, but fails to teach or suggest "at least one first digitized image in a wavelength of between 525 to 575 nanometers, at least one second digitized image in a wavelength of between 565 to 582 nanometers, and at least one third digitized image in a wavelength of between 625 to 635 nanometers." To the extent that this feature is not found in the prior art cited by Examiner, the present case is held allowable over the art of record.

#### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

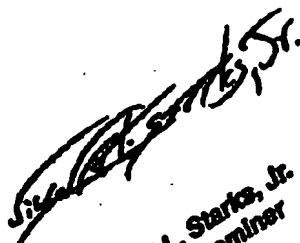
- A. Zahniser et al. (U.S. Patent Number 6,665,060 B1; dated 16 December 2003; class 356; subclass 039) discloses a cytological imaging system and method.
  - B. McNamara et al. (U.S. Patent Number 6,007,996; dated 28 December 1999; class 435; subclass 006) discloses an in situ method of analyzing cells.
  - C. Cabib et al. (U.S. Patent Number 6,690,817 B1; dated 10 February 2004; class 382; subclass 134) discloses spectral bio-imaging data for cell classification using internal reference.
  - D. Haykin, Simon, "Neural Networks: A Comprehensive Foundation", Macmillan College Publishing Company, Englewood Cliffs, New Jersey, 1994, pp. 138-229.
9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
10. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (703) 305-0027.

Alternatively, inquiries may be directed to the following:

S. P. E. Anthony Knight	(703) 308-3179
After-final (FAX)	(703) 746-7238
Official (FAX)	(703) 746-7239
Non-Official/Draft (FAX)	(703) 746-7240

WLS

16 September 2004

  
Wilbert L. Starto, Jr.  
Primary Examiner  
Art Unit - 2121



PTO/US08A (10-01)

Approved for use through 10/31/2002, OMB 0631-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/P10		<b>Complete if Known</b>			
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	09/970,610		
		Filing Date	October 4, 2001		
		First Named Inventor	Ryan Raz		
		Art Unit	2422 2/21		
		Examiner Name	Not Yet Assigned		
Sheet	1	of	2	Attorney Docket Number	VERACE 3.0-010 CONT

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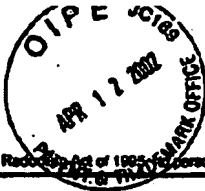
U.S. PATENT DOCUMENTS							
Examiner Initials*	Cite No.	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document		Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (If known)			Class	Subclass	
LS	AA	5,257,182		10-28-1993	Luck et al.		
	AB	5,276,771		01-04-1994	Manukian et al.		
	AC	5,276,772		01-04-1994	Wang et al.		
	AD	5,331,550		07-19-1994	Stefford et al.		
	AE	5,412,737		05-02-1995	Govrin		
	AF	5,544,650		08-13-1996	Boon et al.		
	AG	5,587,833		12-24-1996	Kamentsky		
	AH	5,677,966		10-14-1997	Doerr et al.		
	AI	5,740,270		04-14-1998	Rutenberg et al.		
	AJ	5,835,620		11-10-1998	Kaplan et al.		
	AK	5,889,880		03-30-1999	Doerr et al.		
	AL	5,939,278		08-17-1999	Boon et al.		

FOREIGN PATENT DOCUMENTS								
Examiner Initials <sup>1</sup>	Cite No. <sup>1</sup>	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>2</sup>
		Country Code <sup>2</sup>	Number <sup>2</sup>	Kind Code <sup>2</sup> (if known)				
LS	BA-	WO	91/15826		10-17-1991	Neuromedical Systems, Inc.		
LS	BB-	WO	91/20048		12-28-1991	Applied Electronic Vision, Inc.		
LS	BC-	WO	92/13308		08-08-1992	Neuromedical Systems, Inc.		
LS	BD-	WO	98/41303		12-19-1996	Neopath, Inc.		
LS	BE-	EP	0525964 A2		02-03-1993	Scitex Corporation Ltd.		
LS	BF-	EP	0587093 A2		03-16-1994	Hitachi, Ltd.		
LS	BG-	EP	0710004 A2		05-01-1996	Sharp Kabushiki Kaisha		
	BH							

Examiner Signature	<i>[Signature]</i>	Date Considered	16 SEP 04
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

\*Applicant's unique citation designation number (optional). \*See attached Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. \*Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). \*For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. \*Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. \*Applicant is to place a check mark here if English language Translation is attached.



PTO/SB/088 (10-01)

Approved for use through 10/31/2002.OMB 0631-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449B/PTO		<b>Complete if Known</b>			
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	09/970,810		
		Filing Date	October 4, 2001		
		First Named Inventor	Ryan Raz		
		Group Art Unit	2428- 2121		
		Examiner Name	Not Yet Assigned		
Sheet	2	of	2	Attorney Docket Number	VERACE 3.0-010 CONT

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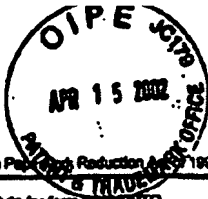
OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
WS	CA*	EVAN PRESTON, TOM BERGMAN, RON GORENFLO, DAVE HERMANN, ED KOPALA, TOM KUZMA, LARRY LAZOFSON AND RANDY ORKIS, Development Of A Field-Portable Imaging System For Scene Classification Using Multispectral Data Fusion Algorithms, IEEE 1994 National Aerospace & Electronics Conference (NAECON) Dayton, US, 23-27 May, volume 2, pages 1090-1097 XP000847232.	
	CB*	M. HERBIN, A. VENOT, J.Y. DEVAUX and C. PIETTE, IEEE Transactions On Medical Imaging, vol. 9, no. 3, September 1990, New York, US, pages 262-269, XP000159489.	
	CC*	W. REID THOMPSON, Global Four-Band Spectral Classification Of Jupiter's Clouds: Color/Albedo Units And Trends, see page 54, right-hand column, line 20-line 31.	

Examiner Signature	<i>Silvia P. Smith, Jr.</i>	Date Considered	16 SEP 04
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\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.





PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0851-0031

U. S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		<b>Complete if Known</b>	
		Application Number	09/970,610
		Filing Date	October 4, 2001
		First Named Inventor	Ryan Raz
		Art Unit	2423-2124
Examiner Name	Not Yet Assigned	ST715/0001-2100	
Attorney Docket Number	VERACE 3.0-010 CONT		
Sheet	1	of	1

U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No.	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>1</sup> (if known)			
C/S SP	AA	5,889,880	03-30-1999	Doerner et al.	
	AB	5,939,278	08-17-1999	Boon et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	1 <sup>2</sup>
		Country Code <sup>3</sup> -Number-Kind Code <sup>4</sup> (if known)				
C/S SP	BA	WO 97/04419	02-06-1997	Morphometrix Technologies Inc.		
	BB	WO 97/11350	03-27-1997	Morphometrix Technologies Inc.		
	BC	WO 99/01842	01-14-1999	Neopath, Inc.		
	BD	WO 99/04244	01-28-1999	Accumed International, Inc.		

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See attached Kind Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 801.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	1 <sup>2</sup>

Examiner Signature	<i>Silvestre, Jr.</i>	Date Considered	16 SEP 04
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<sup>1</sup> EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>2</sup> Applicant's unique citation designation number (optional). <sup>3</sup> Applicant is to place a check mark here if English language Translation is attached.